REMARKS

In the Office Action, the Examiner rejected claims 1-17, 34-36 under 35 USC §102 and rejected claims 18-33 under 35 USC §103. These claim rejections are fully traversed below.

The claims have been amended to correct minor informalities and to further clarify the subject matter regarded as the invention. Claims 1-36 remain pending.

Reconsideration of the application is respectfully requested based on the following remarks.

REJECTION OF CLAIMS 1-17, 34-36UNDER 35 USC §102

In the Office Action, the Examiner rejected claims 1-17 and 34-36 under 35 USC §102(e) as being anticipated by U.S. Patent No. 6,061,650, Malkin et al, ('Malkin' hereinafter). Applicant respectfully traverses these rejections.

Malkin discloses methods and apparatus for transparently providing mobile network functionality. See title. Malkin requires that the node be authenticated by sending an authentication request to an authentication server residing at the home network. The service provider establishes, on behalf of the remote node, a remote connection between the remote node and the home network to enable packets to be transferred between the remote node and the home network. See Abstract. Thereafter, open communication is available between the remote node and its home network using the GRE and the Mobile IP protocol. See col. 5, lines 43-46.

With respect to claims 6-9, as amended, the claims depend from claim 1, and further recite:

"sending the request packet to a server, the server being adapted for performing authentication and for storing a profile for one or more nodes supporting PPP, the server being

located outside the home network, wherein the server is in a network in which the Foreign Agent is located."

As set forth above, Malkin requires that the node be authenticated via an Authentication Server (AS) located in the home network. See col. 2, lines 41-48; col. 4, lines 23-32. Thus, Malkin fails to anticipate claims 6-9, as amended. Accordingly, Applicant respectfully submits that claims 6-9 are patentable over Malkin.

Claim 10, as amended, depends from claim 1 and further recites:

the ~~information~~ PPP node profile associated with the node further identifying a key to be shared between the Home Agent and the Foreign Agent_ for use in authenticating communications between the Home Agent and the Foreign Agent.

Malkin neither discloses nor suggests storing such a key that is shared between the Home Agent and the Foreign Agent in a PPP node profile. This shared key is well-known in the art to be used to generate a Foreign-Home authentication extension. Accordingly, Applicant respectfully submits that claim 10 is patentable over the cited art.

Claim 11, as amended, depends from claim 1, and further recites:

"the ~~information~~ PPP node profile associated with the node further identifying a service selection, the service selection indicating that PPP service is normal PPP service, mobile IP service, or proxy mobile IP service."

The Examiner refers to column 4, lines 45-60 of Malkin. While Malkin does disclose permitted protocols (IPCP and IPXCP), Malkin neither discloses nor suggests storing a PPP node profile that identifies a service selection indicating that PPP service is normal PPP service, mobile IP

service, or proxy mobile IP service. In fact, Malkin assumes that the service is a remote service. Accordingly, Applicant respectfully submits that claim 11 is patentable over Malkin.

Claim 12 depends from claim 11, and further recites:

"wherein composing the registration request packet is performed in response to obtaining the PPP node profile in which the service selection indicates that PPP service is proxy mobile IP service."

As set forth above, Malkin neither discloses nor suggests a service selection that indicates that the PPP service is proxy mobile IP service (rather than normal PPP service or standard mobile IP service). In fact, no such selection is possible in Malkin, since Malkin assumes that the node is remote and therefore normal PPP service cannot be performed in Malkin. Moreover, Malkin assumes that the node will always require proxy registration to be performed by the Foreign Agent (rather than ascertaining whether the node is, in fact, Mobile IP enabled via the Mobile IP service selection). Accordingly, Applicant respectfully submits that Malkin fails to anticipate claim 12.

Claim 13, as amended, depends from claim 1, and further recites:

"the ~~information~~ PPP node profile associated with the node further indicating a registration lifetime for the node."

The Examiner cites column 5, lines 20-28 of Malkin. However, Malkin merely discloses a retransmit time during which it expects a registration reply from the gateway. The RAS will retransmit the request if a response is not received within the predetermined period of time. Thus, the retransmit time pertains to a time during which a registration reply must be received during the registration process in order to prevent termination of the session of the node. In other

words, if the registration process has not been successfully completed during the retransmit time, the PPP connection will be terminated with the remote node. In contrast, a registration lifetime is understood in the art to refer to the lifetime of registration of the node <u>after</u> the registration process has been completed. In other words, the node will be able to receive packets addressed to its Home Address and received by its Home Agent during the registration lifetime via the Foreign Agent. After the registration lifetime has expired, the node must typically re-register to extend the registration lifetime. Accordingly, Applicant respectfully submits that claim 13 is patentable over Malkin.

REJECTION OF CLAIMS 18-33 UNDER 35 USC §103

In the Office Action, the Examiner rejected claims 18-33 under 35 USC §103(a) as being unpatentable over Malkin in view of "Mobile IP: Design Principles and practices," ('Mobile IP' hereinafter). Applicant respectfully traverses these rejections.

Claims 18-33 recite the use of a sequence number, or relate to determining or identifying (e.g., in a packet or data structure) whether a registration is an initial registration or a subsequent registration. The general purpose of the sequence number in the pending claims is to ascertain whether the registration is an <u>initial registration</u> of the node with the Home Agent (e.g., when the sequence number is zero) or whether the registration is a <u>re-registration</u> of the node. See page 20, line 1- page 21, line 23 of Applicant's specification, for example.
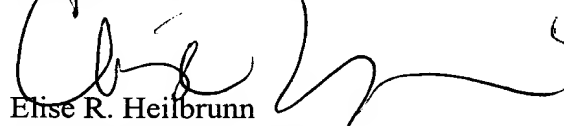
The Examiner admits that Malkin fails to disclose such a feature, and seeks to cure the deficiencies of Malkin with Mobile IP, page 50, Section 3.5.2. However, page 50, section 3.5.2 of Mobile IP merely discloses the use of a sequence number in an <u>agent advertisement</u>, as the Examiner recognizes in the rejection of claim 19. The sequence number of Mobile IP in no manner suggests the number of registrations that have been performed on behalf of a particular

node, but rather the <u>number of advertisements that have been transmitted</u> by the agent. An agent advertisement is known in the art to be transmitted by agents such as Foreign Agents, and is entirely different from registration request and reply packets. Mobile IP neither discloses nor suggests the use of a sequence number in a registration request or reply packet. Moreover, Mobile IP neither discloses nor suggests ascertaining whether a registration is an initial or subsequent registration via a sequence number or any other mechanism. Thus, the combination of the cited references would fail to achieve the desired result. Accordingly, Applicant respectfully asserts that claims 18-33 are patentable over the cited references.

The Examiner has taken official notice that it was obvious at the time of invention to deny an authentication or disallow full access, if one or more characteristics of a verification process were found to be unmatching. While authentication is not a new process, the use of sequence numbers (e.g., claims 32 and 33) to authenticate a node is novel and non-obvious. More particularly, determining whether a sequence number in a registration request packet is the same or different from that in a mobility binding table is neither disclosed nor suggested by the cited references. Accordingly, Applicant respectfully submits that claims 32 and 33 are patentable over the cited references.

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Respectfully submitted,

BEYER WEAVER & THOMAS, LLP

Elise R. Heilbrunn
Registration No. 42,649

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P.O. Box 778
Berkeley, CA 94704-0778
(510) 843-6200